MITROFANOFF PROCEDURE IN CHILDREN :
A 20-YEAR SINGLE-CENTER EXPERIENCE

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Background:

• The Mitrofanoff procedure provides a continent catheterizable conduit for bladder emptying in children with impaired bladder function.

• This study aims to review the indications, surgical outcomes and postoperative complications associated with the Mitrofanoff procedure in the pediatric population.

Methods:

• Retrospective monocentric study.
• Children operated on in our department and under follow up (>6months).
• **Twenty** years : 2004-2024.

• Data included : **demographics**, **indications**, **complications** and **reinterventions**.

Results:

• **Eighteen** children, sex-ratio : 1,25.

Males : 10

Females : 8

• A mean follow-up of **6 years**.

• Mean age at surgery was **9 years** [5–15].

INDICATIONS	Neurogenic bladder	9 patients	Myelomeningocele	6
			Sacral agenesis	3
	Bladder exstrophy	8 patients		
	Posterior urethral valves	1 patient		

Table 1. Indications of the Mitrofanoff procedure.

PREOPERATIVE ASSESSMENT

- **Renal scintigraphy** : • Evaluate upper urinary tract status.
- **Urodynamic study** : • Evaluate bladder function.
- **Urethro cytography** : • Evaluate associated vesicouretheral reflux.

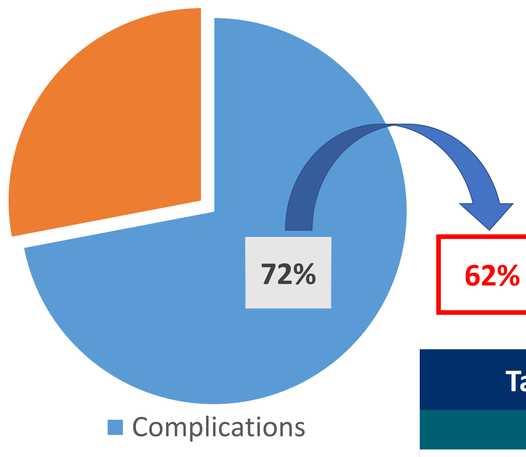
Table 2. Surgical procedures

Procedures	(n)
Mitrofanoff alone	3 cases
Mitrofanoff + augmentation enterocystoplasty	6 cases
Mitrofanoff + augmentation enterocystoplasty + bladderneck closure	3 cases
Mitrofanoff + augmentation enterocystoplasty + vesicoureteral reflux repair	5 cases
Mitrofanoff + augmentation enterocystoplasty + vesicouretheral reflux repair + bladderneck closure	1 case

Continent catheterizable stoma using the **appendix**

• **100%** at first procedure

Mean postoperative bladder drainage : **16,5 days**



62% → ***STOMAL STENOSIS !***

Table 3. Specific complications of the Mitrofanoff Channel

Type of Complication	Cases (n, %)
Stomal stenosis	**8 (62 %)**
Incontinence through the channel	**6 (46 %)**
Granulation tissue at the stoma site	**2 (15 %)**

Among the 13 patients with Mitrofanoff-related complications, stomal stenosis was most frequent (62 %), followed by incontinence (46 %) and granulation tissue formation (15 %).

- Average time to onset : **1 year** postoperative.
- All patients who experienced complications underwent at least one surgical revision, with **the average of 2 reinterventions** per patient [1–7].

Table 4. Surgical reinterventions for management of Mitrofanoff complications

Type of procedure	% of Cases
Superficial (supra-aponeurotic)	**31 %**
Deep (sub-aponeurotic)	**69 %**

- In **38%** of cases with complications, the conduit was eventually abandoned due to patient or parental refusal.

Conclusions:

- While the Mitrofanoff procedure remains an effective solution for pediatric urinary diversion, it carries a high complication and reoperation rate.

- Rigourous preoperative planning, detailed counseling, structered education and long-term follow-up are keys to improve functional outcomes and patient adherence.